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Health Insurance Reserves Controversy

by William M. Buchanan

It was with considerable interest that I read Deborah A. Poppel's interview with Paul Barnhart (*The Actuary,* March 1988) concerning the controversy over health insurance reserves. The general impression left by the article was that the real issues had not been appreciated by those who oppose the "Benefit Ratio Reserve" approach and that clarification and understanding are all that is needed to bring consensus that the proposed method is the best solution.

Paul describes three controversial elements of the proposed method. The controversy really arises with respect to the total concept, rather than the individual elements of the method. A confusion of reserve adequacy with policyholder equity is at the root of the controversy.

Reserves, regardless of the underlying coverage, should be that amount which, together with anticipated future premiums, is sufficient to meet future guaranteed benefits. A reserve by definition must look to future obligations. As all actuarial students learn, through algebraic manipulation a reserve calculation can be made that looks backward (retrospective) to accumulated premiums, less costs, which exactly equals the prospective reserve. Paul has demonstrated these manipulations with respect to health reserves in his paper, which will be forthcoming shortly. To the actuary trained in life insurance, this symmetry makes wonderful sense and is quite appealing.

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Worth Reading: "The Flock & the Sheep" by Redington

by Kenneth W. Stewart

Frank M. Redington, FIA, is best known to North American actuaries for his seminal 1952 paper "Review of the Principles of Life-Office Valuations" (*JIA* 78, 286). It introduced many of us to the concept of immunization, and to directly considering the relationship between assets and liabilities in valuation.

Two weeks before his 75th birthday in 1981, Redington presented to the Institute of Actuaries a unique set of papers, "The Flock & the Sheep & Other Essays," which subsequently were honored by formal discussion in the Institute, at the Institute of Actuaries of Australia, and at the Faculty of Actuaries in Scotland, i.e., throughout all the major actuarial bodies of the English-speaking world outside North America.

The paper is the author's gift to his profession and the insurance industry toward the end of his long and illustrious career. (He died in 1984.) It commenced as a series of reminiscences documenting some of the radical changes that occurred during his years of practice, using 1945 as a watershed between the old years of relative calm and the new era of turbulence and change.

As the author warmed to his subject, he found himself writing a series of interconnected essays on problems of surplus and bonus [dividend] distribution. The paper proceeds in four parts:

1. "Actuarial Climates of the Twentieth Century" is a rich and insightful survey of trends in portfolio yields and bonus levels over the long cycles in which portfolio yields were generally rising or falling. It details with a balance of gentle amusement and concern how actuaries of the time became "caught in the web of expectation which [they] had aroused," and were grudging to change bonus levels even when it was clear that they were *no longer affordable.*

Had the Second World War not intervened and made rather draconian measures [a large reduction in the rate

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In this issue:

"Flock & Sheep" cont'd.

Perhaps the best thing that could happen would be what we are all wanting and striving for; that we should gradually come to grips with inflation.

Your enjoyment of Redington's paper will be enlivened by edited comments from its three formal discussions at the Institute, the Australian Institute and the Faculty. Carefully selected and edited, each adds something of value; collectively they provide further development of Redington's original questions and valuable additional documentation of actuarial thought processes applied to bonus [dividend] distribution.

Redington's 1981 paper is a signal gift to his profession, both in the U.K. and around the world. In my experience, it has few equals in terms of its gentle wit and wisdom, and the seasoned cadence of carefully measured and collected thought. It is both timely and timeless, a valuable testament to a rich period of actuarial history, and clearly applicable to many of the most pressing problems of modern practice.

Redington's paper and the edited discussions are printed in *A Ramble Through the Actuarial Countryside: The Collected Papers, Essays and Speeches of Frank Mitchell Redington (FIA)*, Institute of Actuaries Students' Society, 1986. The book is available for loan from the SOA library.

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TSA Papers Accepted

The following papers have been accepted for publication in *TSA* Volume 40:

"A Generalized Profits Released Model for the Measurement of Return on Investment for Life Insurance," by David N. Becker.

"Algorithms for Cash-Flow Matching," by Rama Kocherlakota, Dr. E.S. Rosenbloom and Elias S.W. Shiu, Ph.D.

In Memoriam

Edmund Berkeley FSA 1941
Robert J. Kirton ASA 1950
Edward J. Seligman ASA 1969
William S. York FSA 1941

Reserves Controversy cont'd.

However, in health insurance, other factors arise, such as inflation, changes in medical practice, and the ability (or restriction) of the company to change premium rates. The accumulated total of premiums over claims has nothing to do with future liabilities. Only in that rare (or probably even nonexistent) case where the experience (net premium) is the planned percentage of the gross premium is the retrospective reserve fund accumulation equal the prospective reserve for health insurance. The significance of the reserve is that, together with anticipated future premiums, it will be sufficient to meet future claims. We would certainly agree that this requires judgment on the part of the actuary. We would, however, recommend an objective tabular standard as a starting place. As long as appropriate tests (judgments) are made which satisfy the actuary that the calculated reserve, together with future anticipated premium, is adequate to meet future claims, no greater reserve or no less a reserve is appropriate. This is essentially a gross premium valuation test.

The premium which may be taken into account in considering adequacy of reserves should recognize the limitations which may be imposed upon future rate increases by state regulation. This seems to be where some confusion about "reserves" arises. If loss ratios are low, future rate increases will be more difficult (impossible) to get and, hence, some element of rate adjustment liability may arise. This is separate and apart from the solvency "reserve" element, which considers future claims and future expected premiums in its determination. This is a key element of the "Benefit Ratio Reserve" controversy. Should the reserve liability include an element of rate regulatory mechanism? Basically, use of a prospective tabular approach, buttressed by gross premium valuation considerations, is the test of adequacy of the reserve. That is, the total margins in future premiums can be taken down to zero (no future profits) before any additional reserve is called for. It is not necessary that the same ratio of net to gross premiums be maintained, but it is necessary that the expected net premium and expenses not exceed the gross premium.

Thus, the "Benefit Ratio Reserve" method involves an equity element of rate regulation, which would best be separately considered and dealt with apart from the solvency test of reserves. Experience may create an additional liability in some jurisdictions and under some circumstances. The whole subject of rate regulation needs to be considered. Of special concern is the practice of initial underpricing to "buy" business, as well as the concern about companies being unable to recover losses on business with high termination rates. But these are other questions. The reserving standard should deal with contractual claim liabilities now and in the future on existing in-force business.

The third controversial element which Paul mentions is the acquisition cost. The existing method of allowing a two-year preliminary reserve gives some relief for these initial expenses without the inverse relationship of the higher the acquisition cost, the lower the net liability you must post. Thus, two companies with the same policy and the same past and expected future experience may post quite different initial reserves. That is, the high-cost company (or high-commission company) can post a lower net liability than its competitor, who is actually operating at a lower cost and who has exactly the same expected future liabilities. Again, the element of equity seems to be confused with the purpose of solvency, for which reserves are intended. Introduction of a GAAP concept of unamortized acquisition costs is a rather radical and unique departure from current methods.

In the long run, the development of the valuation actuary concept and the emergence of guidance on standards of practices will go a long way toward assuring solvency more than a model bill, which may not be very universally accepted in view of the fact that it is controversial. In the meantime, the health insurance market has become a target of politicians. Continued withdrawal of carriers from the market for individual comprehensive medical care coverage seems to be a likely future scenario under current circumstances. Making "Benefit Ratio Reserves" the mandatory standard for reserves could well intensify this trend and hasten movement by the Federal Government into this field of insurance. Should this happen, then reserve standards become a moot point.

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Reserves Controversy cont'd.

Thus, the controversy over reserving method needs an early and workable solution to give a clear regulatory background allowing continued development of health insurance products.

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Insurance Catastrophes Conference August 25-27

Practicing actuaries and academics will discuss the latest developments in the theory of insurance catastrophes at the 23rd Actuarial Research Conference August 25-27 at the University of Connecticut, Storrs. A particular emphasis of this conference is on the AIDS epidemic. A number of actuaries active in this area will join statisticians and medical researchers to explore the current state of knowledge. In addition, there will be sessions for contributed papers on other topics of interest in insurance catastrophes and various actuarial research work underway.

Individuals interested in presenting papers are invited to submit abstracts by July 1. Contributed talks are scheduled for 30 minutes. The registration fee is $75. The Conference is sponsored by the Casualty Actuarial Society, Society of Actuaries, Hartford Actuaries Club and the University of Connecticut's Department of Mathematics and Actuarial Science Program.

For more information and registration forms contact the Conference Coordinator, Dr. Charles Vinsonhaler, at the University of Connecticut in Storrs, [(203) 486-3944 or 3923] or Mark G. Doherty, Director of Research for the Society of Actuaries [(312) 773-3010].

Study Manuals for SOA Exams

Study manuals for Courses 110,120, 130, 135, 140, 150, 151, 160, 162, 165, EA-1 and EA-2 are available from Actuarial Study Materials. For a complete list of manuals, write to A.S.M., P.O. Box 522, Merrick, NY 11566.

Examination Grading Process

by Curtis E. Huntington

Now that the May examinations have been administered, candidates are waiting and wondering why it takes so long to get the results. To answer this perennial question, it might be helpful to follow the process from the time the candidate turns a paper in to the time the results are released.

After each exam, supervisors at each examination center forward multiple-choice answer sheets to a central computer grading facility in Iowa and essay examination papers to the Society office in Illinois. Because of the importance of these materials, either registered mail or courier services are used.

About seven days is needed for this collection procedure, because mail service is slow not only across the Canadian-U.S. border but also from examination centers in nearly 40 overseas countries.

Multiple-Choice Papers

When each package of multiple-choice answer sheets is opened, the contents are checked — first against the candidate number attendance list created by the center supervisor and then against the computerized master file. Because candidates occasionally miscode their candidate numbers on answer sheets, this step must have a high quality control. Correcting errors later in the process takes a much longer time. Since we now administer more than 10,000 test papers at each administration, the schedule allows an additional 10 working days for this step.

Once checked in, the papers are graded by means of a high speed optical scanning machine. Preliminary results from a large initial sample are then statistically measured against the previously submitted answer key. If the statistical measures of difficulty and/or reliability indicate concern about the validity of a particular question, the chairperson of the Part Committee immediately and carefully reviews the results against the original question. Sometimes, the wrong answer key was submitted and only the new key needs to be input. Other times, in spite of quality controls in place in setting the question, it may be decided that an ambiguity has entered the question. In these cases, either multiple answers will be allowed or the question may be excluded from the final result. The schedule allows for five working days to finalize the answer key.

With a finalized answer key, the papers now can be computer graded. Once the results are tabulated, a number of statistical reports are produced and forwarded to the Examination Committee volunteers who will review the results and recommend a pass mark. The production and distribution of these reports takes approximately five working days.

Initial pass mark determinations are made by Examination Committee volunteers using the material provided by the testing service. In jointly sponsored examinations, members of the Casualty Actuarial Society must also be involved in the process. Because of its iterative nature, we schedule five working days for this process.

[The development of pass marks for the Joint Board for the Enrollment of Actuaries examinations follows a different path and involves a formal meeting of the three sponsoring organizations and the Joint Board's Advisory Committee. Depending on the date set for such a meeting, the process could be either longer or shorter than that of the other examinations.]

After reviewing the tentative pass mark proposal, the General Officers of the Education and Examination Committee establish the final pass mark. Over the last several administrations of the Flexible Education System (FES) courses, a formal meeting has been called to evaluate the proposed pass marks and to evaluate the differences between the FES pass marks and those of the prior system. This process generally takes three working days.

Finally, the Society office staff input the pass mark into the computer, produce individual grades and grade slips, print up a list of passing candidates and stuff and mail the envelopes. In order to avoid errors,

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